APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,875	04/30/2001	Kazumi Tabuchi	1152-0275P	1199

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EXAMINER
PHAM, THIERRY L

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/843,875	TABUCHI, KAZUMI
Office Action Summary	Examiner	Art Unit
	Thierry L. Pham	2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>09 November 2006</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-18* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

• This action is responsive to the following communication: an Amendment filed on 11/9/06.

• Claims 1-18 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hori (U.S. 5847726), and in view of Mizutani (U.S. 6078400).

Regarding claim 1, Hori discloses an ink-jet printer system *(inkjet printing system, fig. 63)* comprising:

• an ink-jet printer *(printer 101, fig. 6)* is provided with storage means *(RAM 124 for storing various numerical values, fig. 6, col. 6, lines 5-25 and col. 9, lines 1-10)* which updates and stores the completion time of the last printing operation *(last/preceding printing operation timing, col. 4, lines 12-18 and col. 9, lines 1-10)*;

• wherein, each host machine *(PC 130, fig. 6)* includes print control means *(CPU 31, fig. 6)* for reading out the completion time *(preceding/completion time, col. 9, lines 1-30 and col. 13, lines 28-60)* from the ink-jet printer at the start of a printing operation *(printing operation from PC 130, fig. 7, col. 9, lines 1-40 and col. 13, lines 28-60)*, obtaining an inactive time *(elapse time, fig. 7, col.9, lines 59-65 and col. 13, lines 28-60)* by comparing the read out completion time with the current time *(comparing last operation time with current time, fig. 7, col. 9, lines 59-65 and col. 13, lines 28-60)*, and selectively issuing an execution order of recovery treatment *(i.e. purging operation, fig. 7)* to the ink-jet printer by comparing the obtained inactive time with a predetermined reference time period *(comparing elapse time with predetermined period/time, fig. 7, col. 9, lines 65 to col. 10, lines 5 and col. 13, lines 28-60)*.

Hori discloses the inkjet printing system as shown in fig. 3, but fail to teach an ink-jet printer is shared by multiple number of host machines/computers.

Mizutani, in the same field of endeavor for ink-jet printing system, teaches that it is well known in the art at the time of the invention to have an ink-jet printer shared by multiple number of host machines/computers (ink-jet printer 3 is shared with multiple client apparatuses 1-2, fig. 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the inkjet printer of Mori to be shared by multiple number of host machines as per teachings of Mizutani because of the following reasons: (a) to allow an inkjet printer to be shared with multiple of users, therefore, reducing hardware costs; (b) to improve versatility.

Therefore, it would have been obvious to combine Mori with Mizutani to obtain the invention as specified in claim 1.

Regarding claim 2, Hori further teaches the ink-jet printer according to claim 1, wherein the print control means (host computer, fig. 3) includes time measuring means (real time clock 35, fig. 3) for measuring the current time and transfers the current time measured by the time measuring means at the end of a printing operation to the ink-jet printer as the completion time of the printing operation (current time and last printed completion time, col. 6, lines 15-40).

Regarding claims 3-4, Hori further teaches the ink-jet printer according to claim 1, wherein the print control means determines whether or not the completion time of the last printing operation read out from the ink-jet printer is valid (determine whether the last printed operation time was accurately recorded, col. 10, lines 40-67+) and gives an execution order of a recovery treatment (i.e. purging/flushing operations/tasks based upon the comparison results, fig. 7, cols. 9-10) if the completion time is invalid (invalid time, fig. 8, col. 11, lines 28-47).

Regarding claims 5-7, Hori further teaches the ink-jet printer according to claim 1, wherein if the completion time which was read from the ink-jet printer at the end of the last printing operation indicates a later time than the current time (last printed operation time is later than the current time read from the host computer, col. 10, lines 40-67+), the print control means issues to the ink-jet printer a command of prohibiting (update is not necessary due to inaccuracy of time recorded, cols. 10-11) the update of the completion time held in the storage means.

Regarding claims 8-16, Hori further teaches the ink-jet printer according to claim 1, wherein if the completion time which was read from the ink-jet printer at the end of the last printing operation indicates a later time than the current time, the print control means informs that fact to other host machines and provides warning (informs users to update host computer's time to reflect the correct current time, col. 10, lines 40-67+).

Regarding claim 17, Hori further teaches the ink-jet printer according to claim 2, further comprising: a clock server (host computer includes a real time clock, fig. 6) for indicating the current time, wherein the print control means reads the current time from the clock server at regular intervals and updates the current time measured by the time measuring means based on the read current time.

Regarding claim 18, Hori further teaches the ink-jet printer according to claim 1, further comprising: a clock server (host computer includes a real time clock, fig. 6) for indicating the current time, wherein the storage means updates and stores the current time indicated by the clock server at the printing operation end as the completion time of the last printing operation (current and last printed completion time, fig. 4).

Response to Arguments

Applicant's arguments filed 11/9/06 have been fully considered but they are not persuasive.

• Regarding claim 1, the applicants argued the combined references (US 5847726 to Hori and US 6078400 to Mizutani) fail to teach and/or suggest a printer is provided with storage means which updates and stores a completion time of a last printing operation and a host machine that obtains "an inactive time by comparing the read out completion time of the last printing operation with the current time".

In response, the Examiner fully disagrees with applicants' arguments/assertions. Hori teaches a printer (printer 1 & 101, fig. 3 & 6 respectively) having plurality of storage areas (refs. 12 & 24, fig. 3 & 6 respectively) for storing various time data (e.g. time elapsing period, preceding printing timing, predetermined period, timing of last purging or flushing operation, col. 2, lines 65-67 and col. 3, lines 21-55). Hori also teaches an inactive time by comparing the read out completion time of the last printing operation with the current time *(elapse time, fig. 7, col.9, lines 59-65 and col. 13, lines 28-60).* An inactive time period is a difference between a current time and last printing operation. In other words, inactive time is a period wherein a printer has been idled for a period of time (or elapse period) without any printing operation. The examiner relied upon fig. 7 to show how an elapse time is being calculated based upon last purging or flushing operation. Simply, an elapse period/time is calculated based upon current time and last/preceding printer operation (e.g. printing, flushing, purging). Fig. 4 shows an example of how an elapse time (e.g. second period) is calculated based upon current time and last printing operation time (abstract, col. 6, lines 15-25). Clearly, Mori teaches a storage means (e.g. RAM 24) for storing inactive time (second period) and last printing operation time (col. 6, lines 5-25). In addition, second period can be used to conduct purging or flushing operation "second period starting from the print completion timing of the preceding printing operation (the period during which the ink head 10 has not been ejecting ink) can be used as the first period for conducting purging or flushing operation as the proper timing" col. 8, lines 30-34.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

• US 6388758 to Kawanabe et al, teaches a well-known example of conducting treatment recovery (e.g. print head cleaning) based upon inactive time (elapse time period).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
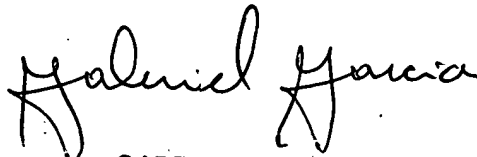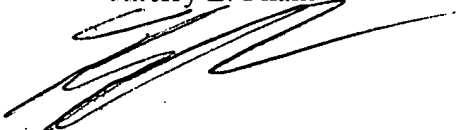
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L. Pham whose telephone number is (571) 272-7439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thierry L. Pham

GABRIEL I. GARCIA
PRIMARY EXAMINER